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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/715,946	11/18/2003	Dieter Moeller	RHIN / 11	4460
26875	7590	09/16/2004	EXAMINER	
WOOD, HERRON & EVANS, LLP 2700 CAREW TOWER 441 VINE STREET CINCINNATI, OH 45202			NGUYEN, GEORGE BINH MINH	
			ART UNIT	PAPER NUMBER
			3723	

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,946

Applicant(s)

MOELLER ET AL.

Examiner

George Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-17 is/are allowed.
- 6) ☒ Claim(s) 1-14 and 18-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on November 18, 2003 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 012304.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Receipt is acknowledged of the IDS filed on 012304 which has been considered and placed of record in the file.

Claims 1-26 are presented for examination.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-11 and 25-26 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al.'5,155,941.

With reference to Figures 35-36, col. 15-16, Takahashi discloses the claimed invention including: a) a base 305; b) a trigger 361. Please note by definition, a trigger is an act or impulses that initiates an action or a series of events. Thus, adjusting ring 361 as disclosed in the '941 meets the broad limitation of "a trigger"; c) a support tube 124; d) an extension member 123; d) a grinding head 146.

Please note that regarding to claim 6, the support tube includes first portion 124 and second portion 123 fixed at an angle relative to the first portion.

FIG. 35

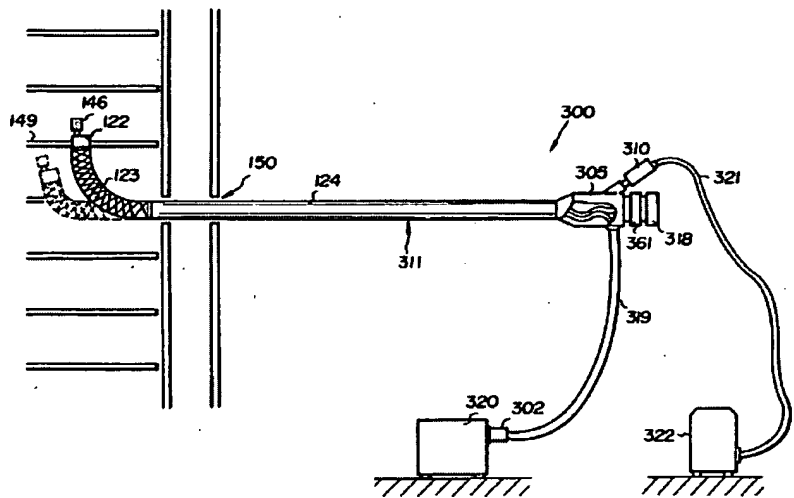
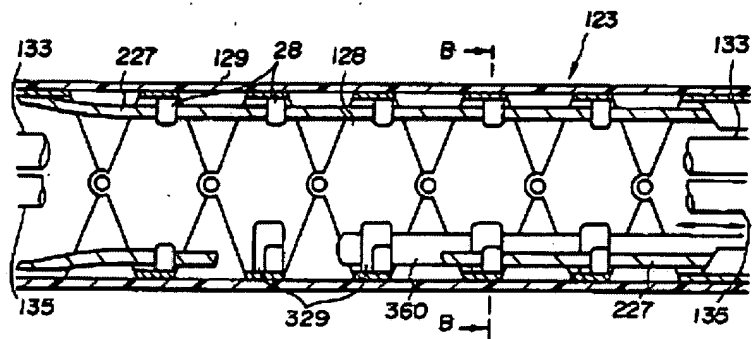


FIG. 36



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hard part 124. A stepped portion 250d is formed in the inner periphery of the cylindrical member 250. The stepped portions 124c and 250d get caught each other to thereby prevent the cylindrical member 250 from coming off towards the top end of the insertion unit, even when the engagement of the external thread 250b with the internal thread 255a is released during the employment.

Other constructions, functions and effects of this embodiment are the same as those of the fifth embodiment.

A ninth embodiment of this invention is demonstrated by FIG. 35.

In the ninth embodiment also, a bendable length of the bending part is variable.

An industrial endoscope system 300 depicted in FIG. 35 comprises: an endoscope 301 (for engineering); a light source apparatus 320 connected to the endoscope 301; a rotary driving section 310 connected to the endoscope 301; and a controller 322 connected via a cord 321 to the rotary driving section 310.

The endoscope 301 includes: an elongate insertion unit 311; an operating unit 305 provided in continuation from the rear end of the insertion unit 311; and a universal cord 319 extending sideways from the operating unit 305. A connector 302 detachably connected to a light source apparatus 320 is provided at the rear end of the universal cord 319. An ocular unit 318 is disposed at the rear end of the operating unit 305.

The insertion unit 311 is composed of, sequentially from its top end, the hard top part 122, the bendable bending part 123 and the hard part 124.

A bending length adjusting ring 361 is provided at the rear end of the operating unit 305. The bending length adjusting ring 361 is connected to a hard bar-like bending length adjusting member 360 inserted into a hard part 124. The bending length adjusting member 360 is shifted in the axial directions by rotating the adjusting ring 361. As illustrated in FIGS. 36 and 37, the bending pieces 128 incorporate a guide 329 into which the adjusting member 360 is inserted.

Note that the numeral 227 designates a wire used for bending the bending part 123. When rotationally manipulating an unillustrated bending operation knob in the operating unit 305, one of a pair of wires 227, 227 is pulled, whereas the other is slackened. It follows that the bending parts 123 is bent towards the pulled wire 227.

In this embodiment, the bending length adjusting ring 361 is rotated in one direction. At this time, the front end of the bending length adjusting member 360 passes through the guide 329 and is extruded towards the top end. When rotating the adjusting ring 361 in the reverse direction, the adjusting member 360 is pulled back to the operating unit 305. In the bending part 123, the portion at which the adjusting member 360 is formed is not bent. The adjusting member 360 is thrust or pulled by turning the adjusting ring 361, whereby, as illustrated in FIG. 33, a length of the bendable portion of the bending part 123 can arbitrarily be changed. A rotary treatment member 146 is led to a desired position, wherein the treatment can be effected.

Other constructions, functions and effects are the same as those of the fifth embodiment.

According to the fifth through ninth embodiments, there is provided is the means for changing the length of the hard part of the insertion unit. This produces an

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advantage of performing the treatment in a desired position while keeping the observing state constant.

FIG. 38 shows a tenth embodiment of this invention.

In the tenth embodiment, the rotary treatment member is rotated by use of a Pelton turbine as a rotary driving source.

An endoscope 401 comprises a fiber scope 402, a light source apparatus 403, a TV camera 406, a CCU 407, a monitor 408 and a pressurizing fluid source 409. The light source apparatus 403 supplies the fiber scope 402 with the illumination light. The TV camera 406 is mounted via an adaptor 405 on an ocular unit 404 of the fiber scope 402. The CCU 407 processes the signals to the TV camera 406. The monitor 408 is connected to the CCU 407. The pressurizing fluid source 409 feeds out a pressurizing fluid for rotational driving.

The fiber scope 402 is constructed of: an insertion unit 411; an operating unit 412 formed at the rear end of the insertion unit 411; an ocular unit 404 shaped at the rear end of the operating unit 412; and a universal cord 413 extending from the operating unit 412. The universal cord 413 is branched off midway into two cords 413a and 413b connected to the light source apparatus 403 and the pressurizing fluid source 409, respectively.

The insertion unit 411 consists of a hard top part provided at the top end (terminal), a bending part 415, a hard part 416 and a soft part 417. The bending part 412 is bendable vertically or laterally by operating a bending knob 418 attached to the operating unit 412. The soft part 417 is constructed of, e.g., an interlock type helical tube.

Inserted into the insertion unit 411 in FIG. 39 are a light guide 421, an image guide 422 and a (fluid) feeding tube 423.

The light guide 421 leading from the operating unit 412 passes through the cords 413 and 413a and is connected to the light source apparatus 403. The light guide 421 transmits the illumination light emerging from the light source apparatus 403. The illumination light is emitted after traveling through an illumination optical system 424 as well as through an end face fixed to a hard top part 414. A subject (for inspection) is illuminated with the illumination light emitted via the illumination optical system 424. An image of this subject is formed on a top end face of the image guide 422 by means of an objective optical system 425 incorporated into the hard top part 414. The image is transmitted through the image guide 422 to the end face of the ocular unit 404. Then, an imaging process is carried out in the TV camera 406. The subject image (endoscope image) is displayed on a display screen of the monitor 408.

In the hard top part 414, a substantially cylindrical slider 430 is movably fitted into a through-hole formed adjacently to the objective optical system 425. In a recess formed in the slider 430, the runner 426 is rotatably retained by the bearings 427, 427. A screw 426b is provided at the front end of a shaft of the runner 426. The screw 426b engages with a screw 428a formed at the rear end of a connecting shaft 428.

Engaged with a screw 428b formed at the front end of the connecting shaft 428 is a screw 432a of a rotary shaft 432 of a rotary treatment member 431. The rotary treatment member 431 is detachably fixed to the connecting shaft 428.

The pressurizing fluid source 409 is connected via the cords 413 and 413b to the rear end of the feeding tube 423. A pressurizing fluid is thus fed out from the pressurizing fluid source 409. The pressurizing fluid source

Please note that in Figure 36, the bendable part 123 is shown with a spring extending between the grinding head 146 and support tube 124.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 12-14 and 18-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al.'941.

Takahashi has been discussed above, but does not disclose an air supply to reciprocate the grinding tool.

Takahashi discloses the claimed invention except for the air supply. It would have been obvious to one having ordinary skill in the art at the time the invention was made to have utilized the air supply since the examiner takes Official Notice of the equivalence of electric motor and air motor for their use in the mechanical art and the selection of any of these known equivalents to drive a tool would be within the level of ordinary skill in the art.

Please note that in the specification of the instant application, page 6, lines 18-24, Applicant discloses that a wire operatively coupled to a variable speed motor is used to reciprocate the grinding tool.

Allowable Subject Matter

5. Claims 15-17 are allowed.
6. The following is a statement of reasons for the indication of allowable subject matter: the specific limitation of "a reciprocating piston ... extension member" in the combination as claimed in claim 15 are not anticipate nor made obvious by the prior art of record in the examiner's opinion.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Miyazaki'463 discloses a grinding apparatus with endoscope.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to George Nguyen whose telephone number is 703-308-0163. The examiner can normally be reached on Monday-Friday/630AM-300PM.

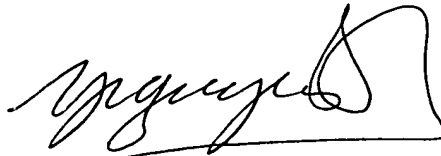
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703-308-2687. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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GEORGE NGUYEN
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'George Nguyen', with a large, stylized loop at the end.

~~George Nguyen~~
Primary Examiner
Art Unit 3723

GN – September 10, 2004